1. PRODUCT AND COMPANY IDENTIFICATION

**Product identifier**
Product Name: United 896 OXY BLUE Tablets

**Other means of identification**
SDS#: UNITED 896

**Recommended use of the chemical and restrictions on use**
- **Uses Advised Against**: For industrial and institutional use only.

**Details of the supplier of the safety data sheet**
- **Company Name**: United Laboratories, Inc.
- **Address**: 320 37th Avenue, St. Charles, IL 60174
- **Emergency telephone number**
  - **Company Phone Number**: 800-323-2594 (to reorder)
  - **Emergency Telephone**: INFOTRAC 1-800-535-5053 (North America)
  - **1-352-323-3500 (International)**

2. HAZARDS IDENTIFICATION

**Classification**

**OSHA Regulatory Status**
This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200).

<table>
<thead>
<tr>
<th>Hazard Category</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oxidizing solids</td>
<td>Category 2</td>
</tr>
<tr>
<td>Serious eye damage/irritation</td>
<td>Category 1</td>
</tr>
<tr>
<td>Acute toxicity – Oral</td>
<td>Category 4</td>
</tr>
<tr>
<td>Skin corrosion/irritation</td>
<td>Category 1B</td>
</tr>
<tr>
<td>Carcinogenicity</td>
<td>Category 2</td>
</tr>
<tr>
<td>Specific target organ toxicity – single exposure</td>
<td>Category 1 (Respiratory System)</td>
</tr>
<tr>
<td>Specific target organ toxicity – repeated exposure</td>
<td>Category 1 (Respiratory System, Central Nervous System, Lung)</td>
</tr>
<tr>
<td>Hazardous to the aquatic environment – acute hazard and long-term hazard</td>
<td>Category 1</td>
</tr>
</tbody>
</table>

**Label elements**

**Emergency Overview**

**Danger**

**Hazard statement**
May intensity fire; oxidizer. Harmful if swallowed. Causes severe skin burns and eye damage. Causes damage to organs (Respiratory System). Causes damage to organs (Respiratory System, Central Nervous System) through prolong or repeated exposure. Very toxic to aquatic life with long lasting effect.
Appearance: Dark purple solid with metallic luster

Physical state: Solid

Odor: Odorless

Precautionary Statements

Prevention
Keep away from heat. Keep/store away from clothing and other combustible materials. Take any precaution to avoid mixing with combustibles. Do not breathe dust. Wash thoroughly after handling. Wear protective gloves/protective clothing/eye protection and face protection. Do not eat, drink or smoke when using this product. Avoid release to the environment.

Response
If on skin: Take off immediately all contaminated clothing. Rinse skin with water/shower. Wash contaminated clothing before reuse. If in the eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If inhaled: Remove individual to fresh air and keep comfortable for breathing. Immediately call a poison control center or doctor. If exposed: Call a poison center/doctor. Collect spillage.

Storage
Store locked up.

Disposal
Dispose of contents/container in accordance with local, regional, national and international regulations.

Hazards not otherwise classified (HNOC) None

3. COMPOSITION/INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>CAS No.</th>
<th>Weight-%</th>
<th>Trade Secret</th>
</tr>
</thead>
<tbody>
<tr>
<td>Potassium permanganate</td>
<td>7722-64-7</td>
<td>30-70%</td>
<td>*</td>
</tr>
<tr>
<td>Calcium Sulfate</td>
<td>7778-18-9</td>
<td>22-60%</td>
<td>*</td>
</tr>
<tr>
<td>Calcium Carbonate</td>
<td>1317-65-3</td>
<td>4-18%</td>
<td>*</td>
</tr>
<tr>
<td>Silicon dioxide (Quartz)</td>
<td>14808-60-7</td>
<td>0.5</td>
<td>*</td>
</tr>
</tbody>
</table>

*The exact percentage (concentration) of composition has been withheld as a trade secret. All concentrations are in percent of weight unless ingredient is a gas. Gas concentrations are in percent by volume.

4. FIRST AID MEASURES

First aid measures

Skin Contact
Take off immediately all contaminated clothing. Immediately flush skin with plenty of water. Get medical attention immediately. Wash contaminated clothing before reuse. Contact with skin may leave brown stain of insoluble manganese oxide. This can be easily removed by washing with a mixture of equal volume of household vinegar and 3% hydrogen peroxide, followed by washing with soap and water.

Eye contact
Immediately flush with plenty of water for up to 15 minutes. Remove any contact lenses and open eyelids wide apart. Continue rinsing. Get medical attention immediately.
Inhalation

Remove individual to fresh air and keep at rest in a position comfortable for breathing. For breathing difficulties, oxygen may be necessary. Get medical attention immediately.

Ingestion

Immediately rinse mouth and drink plenty of water. Never give anything by mouth to a victim who is unconscious or is having convulsions. Do not induce vomiting. If vomiting occurs, keep head low so that stomach content doesn’t get into the lungs. Get medical attention immediately.

General information

In the case of accident or if you feel unwell, seek medical advice immediately (show the label where possible). Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Show this safety data sheet to doctor in attendance. For personal protection, see Section 8 of the SDS. Wash contaminated clothing before reuse.

Most important symptoms and effects, both acute and delayed

Contact with this material will cause burns to the skin, eyes and mucous membranes. Permanent eye damage including blindness could result.

Indication of any immediate medical attention and special treatment needed

Note to physicians

Provide general supportive measures and treat symptomatically. In case of shortness of breath, give oxygen. Decomposition products are alkaline. Brown stain is insoluble manganese dioxide.

5. FIRE-FIGHTING MEASURES

Suitable extinguishing media

Flood with water from a distance, water spray or fog.

Unsuitable extinguishing media


Specific hazards arising from the chemical

May intensify fire; oxidizer. May ignite combustibles (wood, paper, oil, clothing, etc.). Contact with incompatible materials or heat (135°C/275°F) could result in violent exothermic chemical reaction. Oxidizing agent may cause spontaneous ignition of combustible materials. By heating and fire, corrosive vapors/gases may be formed.

Protective equipment and precautions for firefighters

Wear self-contained breathing apparatus and full protective clothing must be worn in case of fire. Selection of respiratory protection for firefighting: follow the general fire precautions indicated in the workplace.

Fire-fighting equipment/instructions

Move container from fire area if it can be done without risk. Cool containers exposed to flames with water until well after the fire is out. Prevent runoff from fire control or dilution from entering streams, sewers, or drinking water supply. Dike fire control water for later disposal. Water runoff can cause environmental damage.

General fire hazards

The product is not flammable. May intensify fire; oxidizer. May ignite combustibles (wood, paper, oil, clothing, etc.). Contact with incompatible materials or heat (135°C/275°F) could result in violent exothermic chemical reaction.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Keep unnecessary personnel away. Keep upwind. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Avoid inhalation of vapors and contact with skin and eyes. Wear protective as described in Section 8 of this SDS. Local authorities should be advised if significant spillages cannot be contained.

Methods and material for containment and cleaning up
Methods for containment and for cleaning up

Keep combustibles (wood, paper, oil etc.) away from spilled material. Should not be released into the environment. This product is miscible in water. Stop leak if possible without any risk. Dike the spilled material, where this is possible. Clean up spills immediately by sweeping or shoveling up the material. Do not return spilled material to the original container; transfer to a clean metal or plastic drum. To clean up potassium permanganate solutions, follow either of the following two options:

Option #1: Dilute to approximately 6% with water, and then reduce with sodium thiosulfate, a bisulfite or ferrous salt solution. The bisulfite or ferrous salt may require some dilute sulfuric acid (10% w/w) to promote reduction. Neutralize with sodium carbonate to neutral pH, if acid was used. Decant or filter and deposit sludge in approved landfill. Where permitted, the sludge may be drained into sewer with large quantities of water.

Option #2: Absorb with inert media like diatomaceous earth or inert floor dry, collect into a drum and dispose of properly. Do not use saw dust or other incompatible media. Disposal of all materials shall be in full and strict compliance with all federal, state, and local regulations pertaining to permanganates.

To clean contaminated floors, flush with abundant quantities of water into sewer, if permitted by federal, state, and local regulations. If not, collect water and treat as described above. Never return spills to original containers for re-use. For waste disposal, see Section 13 of this SDS.

Environmental precautions

Do not allow to enter drains, sewers or watercourses. Contact local authorities in case of spillage to drain/aquatic environment

7. HANDLING AND STORAGE

Conditions for safe storage, including any incompatibilities

Precautions for safe handling

Take any precaution to avoid mixing with combustibles. Do not get this material in your eyes, on your skin, or on your clothing. Do not breathe dust or mist or vapor of the solution. Use personal protection as recommended in Section 8 of this SDS. If clothing becomes contaminated, remove and wash off immediately. When using, do not eat, drink or smoke. Good personal hygiene is necessary. Wash hands and contaminated areas with water and soap before leaving work site. Avoid release to environment.

Storage conditions, including incompatible materials

Store locked up. Keep container tightly closed and in a well-ventilated place. Store in a cool, dry place. Store away from compatible material (See Section 10). Store in accordance with NFPA 430 requirements for Class II oxidizers.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure Guidelines

Exposure guidelines noted for ingredient(s).

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>ACGIH TLV</th>
<th>OSHA PEL</th>
<th>NIOSH IDLH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Potassium Permanganate 7722-64-7</td>
<td>TWA: 0.1mg/m³ (inhalable fraction) TWA: 0.02mg/m³ (respirable fraction)</td>
<td>-</td>
<td>STEL: 3 mg/m³ (fume) TWA: 1mg/m³ (fume)</td>
</tr>
<tr>
<td>Silicon dioxide (Quartz) 14808-60-7</td>
<td>TWA: 0.025mg/m³ (respirable fraction)</td>
<td>TWA: 0.3 mg/m³ (total dust) TWA: 0.1 mg/m³ (respirable) TWA: 2.4 mppcf (respirable)</td>
<td>TWA: 0.05mg/m³ (respirable dust)</td>
</tr>
<tr>
<td>Calcium Sulfate 7778-18-9</td>
<td>TWA: 5 mg/m³ (respirable fraction) TWA: 15 mg/m³ (inhalation fraction)</td>
<td>-</td>
<td>TWA: 10mg/m³ (Total) TWA: 5mg/m³ (Resp)</td>
</tr>
</tbody>
</table>

NIOSH IDLH Immediately Dangerous to Life or Health
Biological limit values

No biological exposure limits notes for the ingredient(s).

Appropriate engineering controls

Engineering Controls

Follow standard monitoring procedures. Provide adequate general and local exhaust ventilation. An eye wash and safety shower must be available in the immediate work area.

Individual protection measures, such as personal protective equipment

Eye/face protection

Wear safety glasses with side shields (or goggles). Wear face shield if there is risk of splashes.

Skin and hand/body protection

Wear chemical-resistant, impervious gloves. Use protective gloves made of: rubber or plastic. Suitable gloves can be recommended by the glove supplier. Wear appropriate chemical resistant clothing. Rubber or plastic apron.

Respiratory protection

In case of inadequate ventilation or risk of inhalation of dust, use suitable respiratory equipment with particle filter. In the United States of America, if respirators are used, a program should be instituted to assure compliance with OSHA 29 CFR 1910.134.

Measurement Element Manganese (Mn) 10 mg/m³ – Any particulate respirator equipped with an N95, R95, or P95 filter (including N95, R95, and P95 filtering face pieces) except quarter-mask respirators. The following filters may also be used: N99, Any supplied-air respirator.

25 mg/m³ – Any supplied-air respirator operated in a continuous-flow mode. Any powered, air-purifying respirator with a high-efficiency particulate filter.

50 mg/m³ – Any air-purifying, full-face piece respirator equipped with an N100, R100, or P100 filter. Any supplied-air respirator with a tight-fitting face piece that is operated in a continuous-flow mode. Any powered, air-purifying respirator with a tight-fitting face piece and high-efficiency particulate filter. Any self-contained breathing apparatus with a full face piece. Any supplied-air respirator with a full face piece.

500 mg/m³ – Any supplied-air respirator operated in a pressure-demand or other positive-pressure mode.

Emergency or planned entry into unknown concentrations or IDLH conditions – Any self-contained breathing apparatus that has a full face piece and is operated in a pressure-demand or other positive-pressure mode. Escape-Any air-purifying, full-face piece respirator equipped with an N100, R00, or P100 filter. Any appropriate escape-type self-contained breathing apparatus.

Wear appropriate thermal protective clothing, when necessary.

General Hygiene

When using, do not eat, drink or smoke. Keep from contact with clothing and other combustible materials. Remove and wash contaminated clothing promptly. Wash hands before breaks and immediately after handling the product. Handle in accordance with good industrial hygiene and safety practice.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

<table>
<thead>
<tr>
<th>Physical state</th>
<th>Solid</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
<td>Dark purple solid with metallic luster.</td>
</tr>
<tr>
<td>Color</td>
<td>Dark purple</td>
</tr>
<tr>
<td>Odor</td>
<td>Odorless</td>
</tr>
</tbody>
</table>
Property | Values | Remarks • Method
--- | --- | ---
pH | No information available |  
Specific Gravity | No information available. |  
Viscosity | No Information available |  
Melting point/freezing point | Starts to decompose with evolution of oxygen (O2) at temps above 150°C. Once initiated, the decomposition is exothermic and self-sustaining. |  
Flash point | No information available. |  
Boiling point / boiling range | No information available. |  
Evaporation rate | No Information available |  
Flammability (solid, gas) | Non-flammable. |  
Flammability Limits in Air | No information available. |  
Upper flammability limit: | No Information available |  
Lower flammability limit: | No Information available |  
Vapor pressure | <0 kPa at 25°C |  
Vapor density | No information available. |  
Water solubility | 6% (20°C) |  
Partition coefficient | No Information available |  
(n-octanol/water) |  
Autoignition temperature | No Information available |  
Decomposition temperature | 464°F (240°C) |  

**Other Information**

- **Density**: 2.70 g/cm³.
- **Explosive properties**: Not explosive. Can explode in contact with sulfuric acid, peroxides and metal powders.
- **Molecular formula**: H-Mn-04.K
- **Molecular weight**: 158.03 g/mol  158.03
- **Oxidizing properties**: Strong oxidizing agent.
- **VOC Content**: None.

## 10. STABILITY AND REACTIVITY

**Reactivity**
Stable and non-reactive under normal recommended conditions of use, storage and transport.

**Chemical stability**
Stable under normal recommended conditions.

**Possibility of Hazardous Reactions**
Contact with combustible material may cause fire. Can explode in contact with sulfuric acid, peroxides and metal powders. Starts to decompose with evolution of oxygen (O2) at temperatures above 150°C. Once initiated, the decomposition is exothermic and self-sustaining.

**Conditions to avoid**
Contact with incompatible materials or heat (135°C/275°F) could result in violent exothermic chemical reaction.

**Incompatible materials**

**Hazardous Decomposition Products**
By heating and fire, corrosive vapors/gases may be formed.
11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Product Information

Inhalation
May cause irritation to the respiratory system.

Eye contact
Causes severe eye damage.

Skin Contact
Causes severe skin burns.

Ingestion
Harmful if swallowed.

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>Oral LD50 (Rat)</th>
<th>Dermal LD50 (Rat)</th>
<th>Inhalation LC50</th>
</tr>
</thead>
<tbody>
<tr>
<td>Potassium permanganate 7722-64-7</td>
<td>2000 mg/kg</td>
<td>2000 mg/kg</td>
<td>-</td>
</tr>
</tbody>
</table>

Information on toxicological effects

Symptoms
Contact with this material will cause burns to the skin, eyes and mucous membranes. Permanent eye damage including blindness could result.

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Sensitization
Skin contact may cause an allergic reaction.

Serious eye damage/eye irritation
Causes serious eye damage.

Skin corrosion/irritation
Causes severe skin burns.

Carcinogenicity
Not classified.

Reproductive toxicity
In animal studies, active ingredient did not interfere with reproduction.

STOT - single exposure
Causes damage to organs (respiratory system).

STOT - repeated exposure
Causes damage to organs (respiratory system, central nervous system) through prolonged or repeated exposure.

Acute toxicity
May cause damage to respiratory system. Prolonged exposure, usually over many years, to manganese oxide fume/dust can lead to chronic manganese poisoning, chiefly affecting the central nervous system.

Chronic effects
Suspected of causing cancer.

IARC Monographs, Overall Evaluation of Carcinogenicity
Silicon dioxide (Quartz) (CAS 14808-60-7) Carcinogenic to humans.

NTP Report on Carcinogens
Silicon dioxide (Quartz) (CAS 14808-60-7) Known to be human carcinogen.

12. ECOLOGICAL INFORMATION

Ecotoxicity
Very toxic to aquatic life with long lasting effects.

Persistence and degradability
Expected to be readily converted by oxidizable materials to insoluble manganese oxide.

Bioaccumulative potential
Potential to bioaccumulate is low.

Mobility in soil
The product is miscible with water. May spread in water systems.

Other adverse effects
None known.
13. DISPOSAL CONSIDERATIONS

Waste treatment methods

Disposal instructions
Dispose of contents/container in accordance with local/regional/national/international regulations.

Hazardous waste code
D001: Ignitable waste. The waste code should be assigned in discussion between the user, the producer and the waste disposal company.

Waste from residues/unused products
Do not allow this material to drain into sewers/water supplies.

Contaminated packaging
Since emptied containers may retain product residue, follow label warnings even after container is emptied. Rinse container at least three times to an absence of pink color before disposing. Empty containers should be taken to an approved waste handling site for recycling or disposal.

14. TRANSPORT INFORMATION

DOT

UN/ID No. UN1479
Proper Shipping Name Oxidizing Solid, n.o.s. (Potassium permanganate)
Transport hazard class 5.1
Subsidiary risk II
Environmental hazards
Marine pollutant Yes
Special precautions for user Read safety instructions, SDS and emergency procedures before handling.
Special provisions IB8, IP2, IP4, T3, TP33
Packaging exceptions 152
Packaging non bulk 212
Packaging bulk 240

IATA

Proper Shipping Name Oxidizing Solid, n.o.s. (Potassium permanganate)
Transport hazard class 5.1
Subsidiary risk II
Label(s) F-H, S-Q
Packing group Yes
Environmental hazards 5L
ERG Code Special precautions for user Read safety instructions, SDS and emergency procedures before handling.

IMDG

UN/NA ID No. UN1479
Proper Shipping Name Oxidizing Solid, n.o.s. (Potassium permanganate)
Transport hazard class 5.1
Label(s) II
Environmental Class Marine Pollutant Yes
EmS F-H, S-Q
Special precautions for user Read safety instructions, SDS and emergency procedures before handling.
Transport in bulk according to Annex II of Marpol 73/78 and IBC Code Not applicable.
## 15. REGULATORY INFORMATION

### International Inventories
Australia, Canada, China, Europe, Japan, Korea, New Zealand, Philippines, Puerto Rico and United States – Complies.

### US Federal Regulations
This product is a “hazardous chemical” as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.
All components are on the US EPA TSCA Inventory List. This product does not contain a chemical known to the State of California to cause cancer, birth defects or other reproductive harm. California OSH Hazardous Substance List: Listed.

Drug Enforcement Administration (DEA) (21 CFR 1310.02(b) 8: List II chemical.


**TSCA Section 12 (b) Export Notification (40 CFR 707, Supt.d)** Not regulated.
**CERCLA Hazardous Substance Lit (40 CFR 302.4)** Potassium permanganate (CAS 7722-64-7) Listed.

Superfund Amendments and Reauthorization Act of 1986 (SARA).

### SARA Hazard Categories

<table>
<thead>
<tr>
<th>Category</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute health hazard</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Chronic Health Hazard</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fire hazard</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sudden release of pressure hazard</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td>Reactive Hazard</td>
<td>No</td>
<td></td>
</tr>
</tbody>
</table>

### SARA 302 Extremely hazardous substance
Not listed.

### SARA 311/312 Hazard chemical
Yes

### SARA 313 (TRI reporting)
Potassium permanganate, 7722-64-7 - >97.5% of weight.

### CWA (Clean Water Act) Section 112(r) (40 CFR 68.130)
Hazardous substance.

### Safe Drinking Water Act (SDWA)
Not regulated.

Drug Enforcement Administration (DEA). List 2, Essential Chemicals (21 CFR 1310.02(b) and 1310.04(f)(2) and Chemical Code Number – Potassium permanganate (7722-64-7) 6579

Drug Enforcement Administration (DEA). List 1 & 2 Exempt Chemical Mixtures (21 CFR 1310.12 (c)) Potassium permanganate (7722-64-7) – 15% wt.

DEA Exempt Chemical Mixtures Code Number – Potassium permanganate (7722-64-7) – 6479

### Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List
Potassium permanganate (7722-64-7)

### Clean Air Act (CAA) Section 112 (r) Accidental Release Prevention (40 CFR 68.130)
Not regulated.

### US State Regulations

#### California Proposition 65
U.S. State Right-to-Know Regulations

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>New Jersey</th>
<th>Massachusetts</th>
<th>Pennsylvania/Rhode Island</th>
</tr>
</thead>
<tbody>
<tr>
<td>Potassium Permanganate 7722-64-7</td>
<td>X</td>
<td>X</td>
<td>X X</td>
</tr>
</tbody>
</table>

16. OTHER INFORMATION

<table>
<thead>
<tr>
<th>NFPA</th>
<th>Health hazards</th>
<th>Flammability</th>
<th>Instability</th>
<th>Physical and Chemical Properties</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>3</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>HMIS</th>
<th>Health hazards</th>
<th>Flammability</th>
<th>Physical hazards</th>
<th>Personal protection</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>3</td>
<td>0</td>
<td>0</td>
<td>E</td>
</tr>
</tbody>
</table>

Issue Date 11-Apr-2015
Revision Date 01-Feb-2016
Revision Note No Information available

Disclaimer
The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

End of Safety Data Sheet